

REMARKS

Independent claims 1, 4, 5 and 9 have been amended to better define the claimed invention and to better distinguish the claimed invention from the prior art. More particularly, each of the independent claims has been amended to specify that the circuit board includes an electronic device having a plurality of leads and a case mounted thereon, and in which the distal ends of the leads are tilted towards a center of the case of the electronic device. None of the applied art teaches or suggests these features. Accordingly, no combination of the applied art teaches or suggests these features.

Moreover, this is more than an academic difference. As discussed in Applicants' specification, shifting the leads as required by Applicants' claimed invention provides advantages in terms of dealing with thermal expansion, etc.

Moreover, there are other differences. Considering first the rejection of claims 1-3, 5 and 6 under 35 USC §103 (a) as being unpatentable over JP 11-219765 to Sony in view of U.S. Publication No. 2004/0108130 to Suzuki (newly cited), independent claim 1 requires, in part, "a volume of a through hole of said through holes, into which an outermost end lead of said leads of said electronic device is inserted, is larger than a volume of a through hole of said through holes, into which a lead of said leads, which is located at a position nearest to a center of said electronic device, is inserted." The Examiner states this requirement of claim 1 is taught by the abstract and FIGS. 3 and 4 of Sony. In particular, the Examiner states that feature 25a is a through hole in an effort to show that Sony teaches varying volumes of through holes. However, the Examiner provides no support or evidence beyond FIGS. 3 and 4. All that can be determined from FIGS. 3 and 4 is that features 25 and 25a have a uniform external diameter

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and varying lead sizes, which falls short of showing a larger volume in one through hole versus another. Any determination of the volume of a through hole from FIGS. 3 and 4 is inaccurate, since there is no discernable difference in hole size, among other considerations. The secondary reference, Suzuki, fails to overcome the shortcomings of Sony. Therefore, since neither reference discloses these requirements of claim 1, no combination of Sony and Suzuki reasonably could be said to teach or suggest claim 1, and the Examiner's rejection is in error.

Claims 2-3 both depend on claim 1 and are allowable for the same reasons above adduced relative to claim 1, as well as for their own additional limitations.

Turning to the rejection of independent claim 5 as obvious from Sony and Suzuki, claim 5, requires, in part: "a size of a through hole of said through holes, into which an outermost end lead of said leads of said electronic device is inserted,... is larger than a size of a through hole of said through holes, into which a lead of said leads which is located at the position nearest to the center of said electronic device is inserted, the size being measured in any direction in a plane." The Examiner rejects claim 5 on the same basis as claim 1. Applicants submit that the rejection of claim 5 is in error for the same reasons put forth above with respect to claim 1, namely that FIGS. 3 and 4 of Sony fail to provide sufficient information for supporting the rejection. The secondary reference, Suzuki, fails to overcome the shortcomings of Sony. Accordingly, no combination of Sony and Suzuki would achieve or render obvious claim 5.

Claim 6 depends on claim 5 and is allowable for the same reasons above adduced relative to claim 5, as well as for its own additional limitations.

Turning to the rejection of claims 1, 4 and 7-9 under 35 USC §103 (a) as being unpatentable over JP laid Open 12375/81 to Mitsumi in view of Suzuki, independent claims 1, 4 and 9 each include the following requirements, respectively:

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“a volume of a through hole of said through holes, into which an outermost end lead of said leads of said electronic device is inserted, is larger than a volume of a through hole of said through holes, into which a lead of said leads, which is located at a position nearest to a center of said electronic device, is inserted.” (Claim 1);

“wherein the diameter of said through hole, into which said lead at the position nearest to the center of said electronic device is inserted, is at least as long as a minor axis of said ellipse.” (Claim 4); and

“a center position of a through hole of said through holes, into which an outermost end lead of said leads of said electronic device is inserted, is shifted in a direction away from a center position of said electronic device at the time of being mounted, from a position of said outermost end lead of said electronic device, which is mounted before being soldered, when a thermal expansion coefficient of said electronic device is larger than a thermal expansion coefficient of said circuit board, and the center position is shifted in a direction approaching a center of said electronic device at a time of being mounted, from the position of said outermost end lead of said electronic device, which is mounted before being soldered, when the thermal expansion coefficient of said electronic device is smaller than the thermal expansion coefficient of said circuit board.” (Claim 9)

The Examiner takes the position that the above-mentioned requirements of claims 1, 4 and 9 are found in FIGS. 3 and 4 of Mitsumi. However, each of the above-mentioned requirements is directed to a relationship or comparison of structures that cannot be determined solely from the figures of Mitsumi. Specifically, it is not possible to determine the volume of a through hole (Claim 1), the size of minor axis of the ellipse, if present (Claim 4), or any value of a thermal expansion coefficient (Claim 9) solely from the figures of Mitsumi. The reference as provided is insufficient in supporting the rejection. The secondary reference, Suzuki, fails to overcome the shortcomings of Mitsumi. Accordingly, no combination of Mitsumi and Suzuki reasonably can be said to achieve or render obvious any of claims 1, 4 and 9.

Claims 7-8 depend on claim 1 and are allowable for the same reasons above adduced relative to claim 1, as well as for its own additional limitations.

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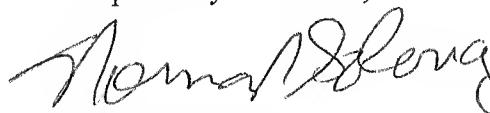
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Having dealt with all the objections raised by the Examiner, the Application is believed to be in order for allowance. Early and favorable action is respectfully requested.

RCE fees are being paid via EFS WEB in the amount of \$810.00.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

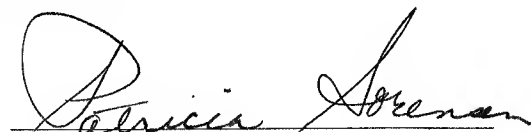
Respectfully submitted,



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I hereby certify that this paper is being deposited with the United States Patent Office via the electronic filing procedure on March 26, 2010 at Tucson, Arizona.



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